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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,233	03/02/2004	Shohei Moriwaki	70456-018	9841

7590 10/06/2008

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EXAMINER	
ALIA, CURTIS A	

ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
10/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,233	MORIWAKI, SHOHEI	
	Examiner	Art Unit	
	Curtis A. Alia	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9 September 2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed on 11 September 2008 has been entered. Claims 1 and 4 have been amended. Claims 1-6 are still pending in this application, with claims 1 and 4 being independent.

Response to Arguments

1. Applicant's arguments filed 11 September 2008 have been fully considered but they are not persuasive.

In response to Applicant's argument that Booth does not teach the portions of the claimed invention cited in the previous Office action, the Examiner respectfully disagrees. Booth et al. discuss various 802.3 Ethernet standards widely used, including Fast Ethernet (see column 4, lines 11-26, for example) to which their invention can be applied. Booth et al. also disclose that their communication module, controlled by a microprocessor, includes a storage portion that auto-polls a status register and an I/O portion capable of outputting the status of the register to another device. This is functionally equivalent to the claimed limitations cited in the Booth portion of the 103 rejection.

Taborek further discloses a device used in 10 Gigabit Ethernet which is also part of the IEEE 802.3 standard as the Fast Ethernet standard.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Booth (previously cited US 6,065,073) in view of Taborek et al. (previously cited US 2003/0217215) and Christiansen (newly cited US 2004/0042500).

Regarding claim 1, Booth discloses a communication module comprising a microcomputer performing general control of the communication module (see column 8, lines

11-15, Network interface card contains a chipset controlling the interface connection), wherein the microcomputer includes a storing portion storing a copy of a register in accordance with a predetermined timing (see column 8, lines 24-29, status register is auto-polled based on a predetermined period of time) and an input/output portion outputting the copy of the register stored in the storing portion to a host device in accordance with a request by the host device (see column 8, lines 18-21 and 28-30, control values are changed via an MDIO interface by the auto-polling unit configured by the host CPU).

Booth does not explicitly teach that the communication module comprises a retimer controlling a physical layer.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Taborek. In particular, Taborek teaches that the communication module comprises a retimer controlling a physical layer (see paragraph 53, lines 7-10, paragraph 56, lines 12-15, Figure 3, retimer RTMR is coupled to the PHY (CHIPSET) 310 block of the switched line card, the retimer is a physical layer controller and is used to clean up and amplify signals received through a physical dependent medium (PMD)).

In view of the above, having the communication module of Booth, then given the well-established teaching of Taborek, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the communication module of Booth as taught by Taborek, since Taborek stated that when dealing with an optical signal's degeneration, the signal must be refreshed before being converted to electrical signal, and vice versa.

Booth and Taborek do not explicitly teach that the register is included in the retimer.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Christiansen. In particular, Christiansen teaches that the register is included in the retimer (see figure 5, embodiment of figure 5 is the retimer, comprising the elastic storage (registers storing data)).

In view of the above, having the communication module of Booth and Taborek, then given the well-established teaching of Christiansen, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the communication module of Booth and Taborek as taught by Christiansen, since Christiansen stated that the receiver system can handle both synchronous and asynchronous data signals.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Booth in view of Taborek and Christiansen as applied to claim 1 above, and further in view of XENPAK Multi-source agreement (hereinafter "XENPAK").

Regarding claim 2, Booth, Taborek and Christiansen do not explicitly teach that the storing portion further stores contents of a register defined by 10-Gb Ethernet communication module multi-source agreement.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Booth, Taborek and Christiansen, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Booth, Taborek and Christiansen as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Regarding claim 3, Booth, Taborek and Christiansen do not explicitly teach that the microcomputer further includes a nonvolatile memory in which the copy of the register stored in the storing portion is written.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Booth, Taborek and Christiansen, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Booth, Taborek and Christiansen as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Firoozmand (previously cited US 5,136,582) in view of Booth, Taborek, Christiansen and XENPAK.

Regarding claim 4, Firoozmand discloses a communication module comprising a first and second microprocessor performing control of the communication module (see column 4, lines 16-18, plurality of processors), wherein the first microprocessor includes a first storing portion (see column 4, lines 16-18, at least a first and second memory) and a first input/output portion (see column 4, lines 19-22) and the second microcomputer includes a second storing portion (see column 4, lines 16-18, at least a first and second memory) and a second input/output portion (see column 4, lines 19-22).

Firoozmand does not explicitly teach that the first storing portion stores a copy of a register having a value updated by the retimer in accordance with predetermined timing and the first input/output portion outputs the copy of the register stored in the first storing portion to a host device in accordance with a request by the host device, and the second input/output portion outputs the contents stored in the second storing portion to the host in accordance with a request by the host device.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Booth. In particular, Booth teaches that the first storing portion stores a copy of a register having a value updated by the retimer in accordance with predetermined timing and the first input/output portion outputs the copy of the register stored in the first storing portion to a host device in accordance with a request by the host device, and the second input/output portion outputs the contents stored in the second storing portion to the host in accordance with a request

by the host device (see column 8, lines 24-29, a status register is auto-polled based on a predetermined period of time, also see column 8, lines 18-21 and 28-30, the status register values are transmitted via an MDIO interface by the auto-polling unit configured by the host CPU).

In view of the above, having the module of Firoozmand, then given the well-established teaching of Booth, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand as taught by Booth, since Booth stated that polling the status register can be more efficient. A first processor would be capable of performing tasks on one set of memory, such as updating the first register based on the retimer and outputting the value of the register via a first input/output port, and a second processor would be capable of performing another task, such as sending the value of registers via an input/output port to a host device in response to the request of the host device.

Firoozmand and Booth do not explicitly teach that the communication module comprises a retimer controlling a physical layer.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Taborek. In particular, Taborek teaches that the communication module comprises a retimer controlling a physical layer (see paragraph 53, lines 7-10, paragraph 56, lines 12-15, Figure 3, Retimer RTMR is coupled to the PHY (CHIPSET) 310 block of the switched line card, the retimer is a physical layer controller and is used to clean up and amplify signals received through a physical dependent medium (PMD)).

In view of the above, having the module of Firoozmand and Booth, then given the well-established teaching of Taborek, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand and Booth as taught by

Taborek, since Taborek stated that when dealing with an optical signal's degeneration, the signal must be refreshed before being converted to electrical signal, and vice versa. This is done to resynchronize the signal with the local clock.

Firoozmand, Booth, and Taborek do not explicitly teach that the register is included in the retimer.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Christiansen. In particular, Christiansen teaches that the register is included in the retimer (see figure 5, embodiment of figure 5 is the retimer, comprising the elastic storage (registers storing data)).

In view of the above, having the communication module of Firoozmand, Booth and Taborek, then given the well-established teaching of Christiansen, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the communication module of Firoozmand, Booth and Taborek as taught by Christiansen, since Christiansen stated that the receiver system can handle both synchronous and asynchronous data signals.

Firoozmand, Booth, Taborek and Christiansen do not explicitly teach that the second portion stores contents of a register defined by 10-Gb Ethernet communication module multi-source agreement and the first microcomputer further includes a first nonvolatile memory in which the copy of the register stored in the first storing portion is written and the second microcomputer further includes a second nonvolatile memory in which the contents stored in the storing portion is written.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that the second portion stores contents of a register defined by 10-Gb Ethernet communication module multi-source agreement and the first microcomputer further includes a first nonvolatile memory in which the copy of the register stored in the first storing portion is written and the second microcomputer further includes a second nonvolatile memory in which the contents stored in the storing portion is written (see section 10.8.3, XENPAK Register Set, besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs)).

In view of the above, having the module of Firoozmand, Booth, Taborek and Christiansen, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand, Booth, Taborek and Christiansen as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Regarding claim 5, Firoozmand, Booth, Taborek and Christiansen do not explicitly teach that the first microcomputer further includes a first nonvolatile memory in which the copy of the register stored in the first storing portion is written in accordance with a predetermined timing.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that that the first microcomputer further includes a first nonvolatile memory in which the copy of the register stored in the first storing portion is

written in accordance with a predetermined timing (see section 10.8.3, XENPAK Register Set, besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs)).

In view of the above, having the module of Firoozmand, Booth, Taborek and Christiansen, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand, Booth, Taborek and Christiansen as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Regarding claim 6, Firoozmand, Booth, Taborek and Christiansen do not explicitly teach that the second microcomputer further includes a second nonvolatile memory in which the copy of the register stored in the second storing portion is written in accordance with a predetermined timing.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that the second microcomputer further includes a second nonvolatile memory in which the copy of the register stored in the second storing portion is written in accordance with a predetermined timing (see section 10.8.3, XENPAK Register Set, besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs)).

In view of the above, having the module of Firoozmand, Booth, Taborek and Christiansen, then given the well-established teaching of XENPAK, it would have been obvious

to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand, Booth, Taborek and Christiansen as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis A. Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

/Curtis A Alia/
Examiner, Art Unit 2616
9/29/2008

CAA